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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,881	11/20/2001	Yong San Yoon	64710	9166

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EXAMINER	
BINDA, GREGORY JOHN	
ART UNIT	PAPER NUMBER

3679

DATE MAILED: 03/18/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/988,881

Applicant(s)

Yoon

Examiner

Greg Binda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 19, 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-38 is/are pending in the application.
- 4a) Of the above, claim(s) 33-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Feb 20 Apr 4, 2002 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

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Election/Restriction

1. Applicant's election with traverse of Group I in Paper No. 8 is acknowledged. The traversal is on the ground(s) that a search of the entire application can be made without a serious burden. This is not found persuasive because a proper search of the entire application could not be made without a serious burden.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 33-38 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the elongate member 500 fixedly attached at: (1) predetermined positions on the pulleys 300, 310 as described in the specification on page 7, line 7; and (2) to the inner ends of the first and second shafts 200, 210 as described on page 8, lines 19-21. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, fixed attachment between the elongate

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member and the ends of the first and second shafts must be shown or the feature(s) canceled from the claim(s) (see claims 23 & 30). No new matter should be entered.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign 250A & 250B which are mentioned in the description on page 7, lines 10, 11 & 29.

6. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

7. The disclosure is objected to because on page 10, lines 1-3, the specification asserts, "two degrees of freedom in the X and Y-axes [are described above]". However, there is no description of a degree of freedom in the X-axis.

8. The specification is objected to as failing to comply with 37 CFR 1.71 and 1.75(d)(1) because the detailed description fails to provide proper antecedent basis for the claimed subject matter in claims 24 & 25.

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Claim Objections

9. Claims 16 & 27 are objected to because:
 - a. Claim 16, line 8, the word "grooves" is misspelled.
 - b. Claim 27, lines 5 & 7, the word "groove" is misspelled.

Claim Rejections - 35 U.S.C. § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 16-22, 24-29, 31 & 32 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The fix attachment between the elongate member and the inner ends of the first and second shafts is critical and/or essential to the practice of the invention, but is not included in the claims. The criticality of (i.e the necessity of including) this feature to the practice of the invention is clearly stipulated in the description on page 8, lines 19-23, where the fix attachment is described as necessary to prevent the elongate member from slipping in the grooves of the pulleys. Thus an improved constant velocity joint without such a feature is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

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12. Claims 31 & 32 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 31, lines 3-6 recites the limitation, "an elongate member for causing said first and second shafts to have first degree of freedom by moving symmetrically about respective centers thereof. However, there is no description of how to make the elongate member 500 so that it moves symmetrically about the respective centers of the first and second shafts 200 & 210. There does not even appear to be a mention of the "centers" of the first and second shafts.

Claim Rejections - 35 U.S.C. § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claim 32 is rejected under 35 U.S.C. 102(b) as being anticipated by Lowry, US 854,426. Figs. 1-3 show a constant velocity joint 1 comprising: first and second shafts 5 & 6; an elongate member 9 for causing the first and second shafts 5 & 6 to have a first degree of freedom (see Fig. 1) by moving symmetrically about respective centers thereof; and first and second support frames

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2 & 3 for causing the first and second shafts to have a second degree of rotational freedom (Fig. 2) and to transmit and receive power therebetween.

15. Claim 32 is rejected under 35 U.S.C. 102(b) as being anticipated by Forsyth, US 1,403,679. Figs. 1 & 2 show a constant velocity joint 1 comprising: first and second shafts 5 & 6; an elongate member 10, 11 for causing the first and second shafts 5 & 6 to have a first degree of freedom (see Fig. 1) by moving symmetrically about respective centers thereof; and first and second support frames 8a, 9a & 8b, 9b for causing the first and second shafts to have a second degree of rotational freedom (not shown) and to transmit and receive power therebetween.

16. Claims 16-20 & 22-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Thompson, US 6,139,437.

a. Claim 16. Figs 5a-5e show a pulley type constant velocity joint comprising: first and second shafts 501 & 521 for transmitting and receiving power therebetween; a first pulley 504 connected to an end of the first shaft 501 and a second pulley 524 connected to an end of the second shaft 524, the first and second pulleys 504 & 524 having circumferential grooves defined therein; an elongate member 515, 516 wound around the circumferential grooves of the first and second pulleys 504 & 524 for causing the first and second pulleys 504 & 524 to rotate about respective centers thereof; and a first support frame 502 rotatably supporting the first pulley 504 and a second support frame 522 rotatably supporting the second pulley 524, the first and second

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support frames 502 & 522 having respective ends rotatably connected together (via members 503, 520, 523).

b. Claim 17. Fig. 5A shows respective pins 511 & 531 connecting the first/second support frame 502/522 to a center of the first/second pulley 504/524.

c. Claim 18. Fig. 5C shows respective connecting pins 503 & 523 for connecting the ends of the first and second support frames 502 & 522.

d. Claim 19. Fig. 5C shows that the connecting pins 503 & 523 each comprise a holding portion on at least one end thereof.

e. Claim 20. Fig. 5A shows that the elongate member 515, 516 crosses itself.

f. Claim 22. Fig. 5A shows that the elongate member 515, 516 comprises a single body.

g. Claim 23. In col. 21, lines 1-3 Thompson discloses that the elongate member 515, 516 is connected to the ends of the first and second shafts.

h. Claim 24 & 25, Fig. 5A shows that the first/second support frame comprises portions adjacent both sides of the first/second pulley.

i. Claim 26. Figs. 5A-5E shows the first and second shafts 501 & 521 are symmetrically aligned with respect to an imaginary symmetric plane bisecting the first and second supporting frames 502 & 522.

j. Claim 27. See items a & h above.

k. Claim 28. See items b & c above.

l. Claim 29. See item e above.

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m. Claim 30. See item g above.

n. Claims 31 & 32. See items a-c & h.

Claim Rejections - 35 U.S.C. § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson. Fig. 5 shows elongate member 515, 516 but does not expressly disclose that the elongate member comprises metal. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the constant velocity joint of Thompson by making the elongate member so that it comprises metal, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Conclusion


19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McArdle shows a joint with a crossed elongate member.

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20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (703) 305-2869. The examiner can normally be reached Monday through Thursday from 9:30 am to 7:00 pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne, can be reached on (703) 308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9326 (before final), (703) 872-9327 (after final) and (703) 872-9325 (customer service).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.



GREGORY J. BINDA
PRIMARY EXAMINER